

# EDITORS GUILD

## M A G A Z I N E

## UNWELCOME EVENTS

### Using Change Notes in Pro Tools

by Douglas Murray

In our last issue, Larry Shalit presented a detailed analysis of OMF as a tool for sound turnover and described the many frustrating and time-consuming workarounds that are necessary to use it effectively. In this article, I'll discuss another, even more essential tool for sound editors: change

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notes. I'll offer some tips to help you conform reels effectively and I'll describe some of the limitations of the Avid change list capability, which unfortunately, hasn't improved much in many years.

As sound editors, we have all been frustrated by the reality of working with picture that isn't locked. Directors and editors constantly work to improve the pacing and

clarity of the story. Visual effects shots dribble in to the bitter end and beyond. Musical ideas change. Studio executives have ideas to try out. Everyone has an opinion. And it all runs downhill to us. Every little nip or tuck is an "event" in the EDL sense, and they are a distinctly unwelcome part of a sound editor's work, leading to much grumbling -- except perhaps about the overtime pay they often generate. And of course, we must admit that the film occasionally gets better as a result of these changes!

#### So What Is a Change List, Anyway?

A change list is a series of adjustments applied to a particular version of a reel, which, when executed in order, will conform it to a newer version of that reel, created by the picture editor. They are used by the sound department to conform their work to a changing picture, and by picture assistants to keep a cut work picture up to date with a digital sequence. When we were cutting picture on film, making change notes was a highly skilled job. Today, Avids and Lightworks make change notes automatically (with varying degrees of success). They remain an indispensable tool without which we simply couldn't work together on a rapidly changing film.

Though Avid change notes have become more reliable over the years, many serious limitations remain. For example, to the Avid, each sound track is a separate entity. When the picture editor moves a sound from one track to another, the Avid indicates this by instructing the sound editor to throw away the moved clip, replace it with leader, then delete the same amount of space in the destination track, and insert a new clip --which happens to be the same material. As a result, sound editors usually choose to make do with the more concise picture change list and learn about sound changes by *listening*.

#### The List Header

Let's look at a change list header. It starts with a title which is most useful if it includes the name of both the source version and the new version of the reel. The durations displayed do *not* represent the last frame of action (LFOA), but instead represent the last

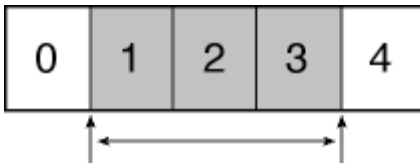


Figure 1. Avid and Pro Tools use different counting schemes to describe clips and events. An Avid change list uses film conventions: the shaded area would have a start frame of 01 and an end frame of 03. Pro Tools uses EDL conventions. The same event would begin on frame 01 and end on frame 04.

frame of the sequence, which probably includes a tail leader of arbitrary length. It's helpful to note the old and new dupe dates and the old and new LFOAs on the list for future reference. Counts are described in standard film form: feet plus frames. (A leading minus sign means that the entire measurement is a negative value.) The header also includes this interesting note: "All Counts Are Inclusive (inside/inside)."

This means that the Avid is displaying the in and the out frames using a different counting scheme than Pro Tools! (See Figure 1.) The Avid describes the start of an event as the leading edge of the first frame and the end of an event as the trailing edge of the last frame. Pro Tools, on the other hand, always counts frames like an EDL: by referring to the leading edge of all referenced frames. (In optical count nomenclature this would be called "inside/outside.")

### The Body of the Note

We'll work with a sample Avid change list. It begins like this:

	At This Footage	Do This	For This Length	Total Change
1.	49+05 73+12	Delete 2 Shots	- 24+08	- 24+08
2.	49+05 58+06	Insert Shot	+ 9+02	- 15+06
3.	58+07 73+12	Insert Shot	+ 15+06	+ 0+00

*At This Footage* gives the in and out frame numbers, measured in feet from the beginning of the reel. The listed out frame is always one frame earlier than the frame number indicated by Pro Tools. *For This Length* is the duration of the event and is the same for both Avid and Pro Tools counting systems. Lists might also include a *First/Last Ink* or *Key* numbers column, which provide an unambiguous way to double-check your work. The *Total Change* column gives you the total change so far in the reel, after the current event has been performed.

It's easiest to begin by trying to consolidate the events on the list, so that there will be as few changes to implement as possible. Unfortunately, you can't always preserve the full accuracy of the conformed track when you combine notes -- but this doesn't necessarily present a problem. Because we're working with a picture list, the sound changes probably won't be fully described, in any case. We'll have to use our ears, the new guide track, the OMF (or EDL), and maybe a track assemble list, to help us through the sound changes. When you have to do this anyway, slavishly performing each event separately can be a waste of time.

The first three events involve swapping two old shots for two new shots, which end up being the same length as the shots they replace. Obviously you need to look at the two new shots to see what's different about them, and cut appropriate sounds, but everything after this change will be in sync if you do nothing. Here are the next seven events in our list:

4.	138+08 189+02	Delete Shot	- 50+11	- 50+11
5.	138+08 189+02	Insert Shot	+ 50+11	+ 0+00
6.	387+05 397+01	Delete Shot	- 9+13	- 9+13

7.	387+05	Insert Shot	+ 9+13	+ 0+00
	397+01			
8.	540+11	Trim Tail	- 3+07	- 3+07
	544+01			
9.	540+11	Trim Head	- 0+04	- 3+11
	540+14			
10.	540+11	Insert Shot	+ 1+07	- 2+04
	542+01			

The fourth and fifth events similarly net out to zero, as do the sixth and seventh. (These were visual effects shots.) The first sync change to the reel comes at Event 8. If we look at Events 8, 9 and 10, we see that trims were made to two shots, for a change in length totaling -3+11, and a new shot of duration 1+07 was stuck in between the two trimmed shots. The net change for these three related events is -2+04, so that's how much needs to be taken out at 540+11 to bring the reel back into sync after the added shot that ends at 542+01. Make sure you write the net changes you calculate onto your change note so you can reproduce them later.

### Conform the Guide Track First

A good way to approach a complicated list is to first conform the old guide track to match the new one. Once the old guide track is updated, it serves as a template for the much more complex task of conforming the reel itself. While this means that we conform every reel twice, it is often easier to make a preliminary conform, check it, sort out the problems, record what we did on paper, and then conform the actual cut tracks.

When you get a change note and corresponding videotape, import the new guide track into your session and set it up to work with the new sync picture. Hide all tracks except the old and new guides. I put the new guide on top, so that the conformed old guide will be adjacent to the other tracks when it's time to conform them.

Every change begins with a selection, and it's easier to make precise selections by typing a Start time and a Length into the "Event Edit Area" of the Edit window, rather than using the mouse in Grid Mode. The editing mode needed is "Shuffle Mode," so be careful to unlock all regions in all tracks you will be bringing up to date.

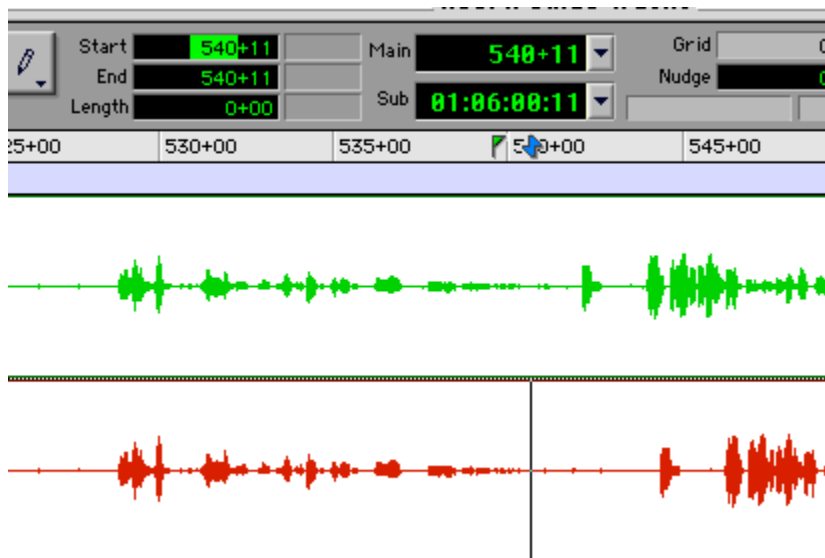


Figure 2. It's more reliable to type the start and length footages than to mouse around.

The first change we must implement is -2+04 at 540+11. Click anywhere in the old guide track. Select the Start field in the "Event Edit Area" (see Figure 2). You can click in the field to select it, or better yet, hit the slash key ("/"). Type the start footage for the change, followed by a period and the number of frames ("540.11"). Then hit slash again, twice, which takes you to the Length field, and type the length of the net change you are making ("2.4"). Hit the Enter key and the selected area will be highlighted in your guide track. Now all you have to do is make sure you are in shuffle mode and hit the Delete key. These are the keystrokes:

/ 540.11 // 2.4 Enter Delete

Now let's look at another series of changes:

	At This Footage	Do This	For This Length	Total Change
13.	687+03 708+14	Delete 5 Shots	- 21+12	- 41+02
14.	687+03 697+01	Insert Shot	+ 9+15	- 31+03
15.	697+02 702+11	Insert Shot	+ 5+10	- 25+09
16.	702+12 706+07	Insert Shot	+ 3+12	- 21+13
17.	706+08 708+03	Insert Shot	+ 1+12	- 20+01
18.	708+04 710+14	Insert Shot	+ 2+11	- 17+06
19.	710+15 719+04	Insert Shot	+ 8+06	- 9+00
20.	719+05 722+10	Insert Shot	+ 3+06	- 5+10

They can be boiled down to one net change, since seven shots were added contiguously, at the same place the five shots were removed. Here we get out a conversion calculator such as Frame Master or StudioPal, or paper and pencil. Add the deletions, then add the insertions and subtract. This shows the net change, in this case, + 35+08. So the footage 687+03 goes into the Start field, and 35+08 into the Length field. Instead of hitting delete, we "Insert Silence" in our guide track by hitting "Command-Shift-E." This pushes the guide track back by the selected amount.

We should now check the old guide track to make sure it is matching the new one. This is the beauty of conforming the guide track on its own: You can clearly see (and hear) whether you are doing the right thing, and if you err in math or execution you can catch yourself quickly.

Let's look at a move:

25. 972+06 Move Shot - 5+05 - 3+09  
977+10 to #30

— — —

30. 1000+08 Insert Shot + 5+05 - 11+11  
1005+12 from #25

To the Avid, a move is essentially a deletion and an insertion of the same material elsewhere. You have to store the material until you get to the event where it is required -- my method is to move it

to the end of the session. Perform the same steps you'd use to prepare for a deletion or insertion; cut the selection in Shuffle mode; then hit Option-Return to go to the end of the session and paste it there. The keystrokes would be:

```
/ 972.6 // 3.9 Enter Command-X
Option-Return Command-V
```

Rename the lifted section with the event number -- in this case, "#25".

When you get to event 30, get the clip from the end of the session. Select it, copy it, go to 1000+08 and paste (in Shuffle mode, of course).

Another kind of move is a rebalance, where a section of one reel is transferred to another. The change note for the source reel indicates a move or a series of moves, and the destination reel's note indicates corresponding insertions. Because Pro Tools still won't open more than one session at a time, we can't copy and paste from one session to another. So we must use the program's import track function for this task, and move entire tracks rather than the short sections we require. Do the source reel moves first, placing the lifts at the end of the session and rename the clips with the event number. Then create the appropriate number of new tracks in the source session and move your lifts into them. Then import these into the destination reel.

### Conforming Your Cut Tracks

Up to now we've only been conforming the guide track, building a template to help conform the bulk of the session. Once we have worked out the problems getting sync against the new guide track, we can conform the cut tracks. Our session has two tracks currently showing: the new guide and the conformed old one, which I'll call the template from now on. Create a new track, put the unconformed old guide into it and show all hidden tracks. The old guide and the unconformed cut tracks are in sync. Group them so they can be conformed as a unit.

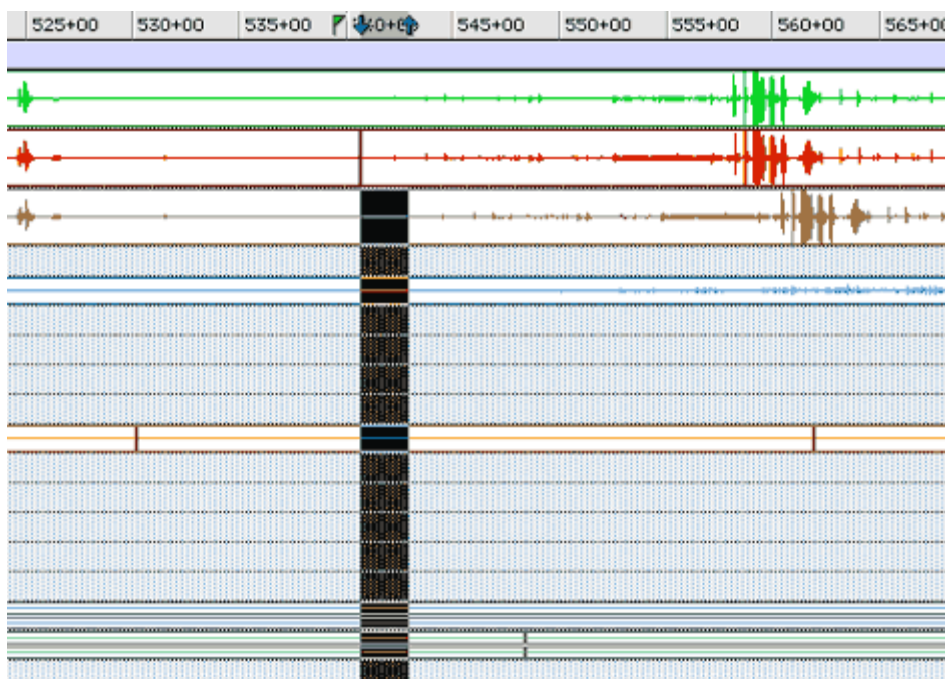


Figure 3. Typing a semicolon in Command Focus mode transfers the selection from the template downward to the grouped tracks you want to conform.

Now click in the earliest region of the template and hit the Tab key, which places the cursor at the first change. In our example, that's 540+11. Enter the length of the first net change, 2+04, into the Length field. Once you have the correct selection in the template, get into "Command Focus

Mode" and hit the semicolon key to make the same selection in all tracks below (see Figure 3). Hit "Delete," then hit the "P" key to move the cursor back up to the template track, and you're ready for the next change.

The keystrokes are as follows. If the change is a deletion or insertion:

Tab / / / [type the length of the change, which you previously recorded on paper]  
Enter ; Delete [for a deletion, or] Shift-Command-E [for an insertion] P

If the change is a move:

Tab / / / [type the length of the next change] Enter ; Command-X Option-Return  
Command-V / [type the 'at this footage' of the cut you just made] Enter P

To insert a moved section, select the lift, hit the semicolon key and copy. Then move the cursor to the place where the insertion is to occur (type /, the footage, Enter) and hit "Command-V", and "P".

As you move along, the guide track you are conforming will come to match the template you created earlier. If not, it's a sign that you have a problem somewhere, so undo and try again. Continue until you reach the end of the list.

### Clean Up

It is usually less work to blast through the changes as I've described, and later redo the small overlaps, long fades and other connective work that is destroyed when whacking your grouped tracks in Shuffle mode. But, sometimes you need to be careful to preserve work that would be damaged by such wholesale changes. Examine the selection and evaluate the complexity of the impending change. If it is straightforward, whack away. If not, memorize the way you cut the tracks, take notes, or make a screen shot so you will have something to refer to later. If necessary, copy the complex edits and paste them into extra tracks, or at the end of the session. After you've made the needed changes, you can use the saved sections to repair the damage.

### The Future

As you can see, the best tools currently at our disposal are often quite kludgy and their use requires lots of knowledge and experience. This article is based on a list of 52 events, and we've talked about less than half of them. A typical reel might have twice that many and a typical show would have dozens or even hundreds of change lists over the course of several months. Perhaps half of the editorial effort on some sound jobs is spent just doing the grunt work needed to conform picture changes. This produces a real economic drain on big pictures and lots of long days and nights for sound editors who would much prefer to be doing something more creative.

Ten years ago the fact that a digital system could create a change list was a revelation. But little has changed in the intervening decade, and many bugs and deficiencies have never been addressed. It's time that Avid, Apple or Lightworks move beyond paper lists and design effective, automatic tools to help us do these laborious tasks more easily. Could it be so difficult to have the machine read a change note from disk, perform the changes and display them on the screen for approval and tweaking by the editor?

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